IN THE CLAIMS:

Please cancel claims 1, 8 and 10 and rewrite claim 2 in independent form as set out in the following listing of the claims:

Claim 1 (Cancelled)

2. (Currently Amended) A transmission apparatus ~~as set forth in claim 1, wherein~~ comprising:

a plurality of assigning means for assigning independently a plurality of channel data to signal points on a complex plane;

each assigning means having ~~has~~ a mapping means for coding an ~~the~~ input information sequence in accordance with a predetermined coding scheme and mapping the coded input information sequence ~~same~~ onto signal points of an orthogonal coordinate space of a complex plane defined by an orthogonal I-axis and Q-axis;

a plurality of frequency converting means for converting the frequency of the plurality of signal points output from said plurality of assigning means in response to a center frequency of each channel;

a multiplexing means for multiplexing the plurality of signals output from said plurality of frequency converting means;

a modulating means for modulating the signal multiplexed by the multiplexing means to an OFDM signal; and

a transmitting means for converting the OFDM signal to an RF band signal and transmitting the same.

3. (Original) A transmission apparatus as set forth in claim 2, wherein each mapping means maps said input data in accordance with a QPSK or one of various QAM coding schemes.

4. (Previously Amended) A transmission apparatus as set forth in claim 3, wherein each frequency converting means converts the frequency according to a phase shift obtained by cumulatively adding a phase-shift angle based on an amount of shift between a center frequency of an RF band signal transmitted by said transmitting means and a center frequency of said channel and a guard interval length.

5. (Original) A transmission apparatus as set forth in claim 4, wherein

each of said plurality of frequency converting means comprises

a phase-shift angle generator for receiving as input the frequency shift and the guard interval length and generating a phase-shift angle defined by the input frequency shift and the guard interval length and effective symbol duration of an OFDM signal,

an adder for adding a phase-shift angle generated by said phase-shift angle generator and a phase-shift angle preceding one OFDM signal, and

a phase shifter for shifting a phase of the assigned signal from the corresponding assigning means in accordance with the added result from said adder.

6. (Original) A transmission apparatus as set forth in claim 5, wherein said phase-shift angle generator generates said phase-shift angle based on the following equation:

Phase-shift angle $\Theta = 2 \Pi \Delta f (T+\Delta T)$

where, Δf is the frequency shift,

ΔT is the guard interval length, and

T is the effective symbol duration of the OFDM signal.

7. (Original) A transmission apparatus as set forth in claim 6, wherein said phase shifter substitutes a phase-shift 2= input from said adder into the following equation to shift the phase of a signal point of the orthogonal coordinate space of said complex plane input from the assigning means and generate a frequency-converted signal point.

$$\begin{pmatrix} I' \\ Q' \end{pmatrix} = \begin{pmatrix} \cos\theta' & -\sin\theta' \\ \sin\theta' & \cos\theta' \end{pmatrix} \begin{pmatrix} I \\ Q \end{pmatrix}$$

8. (Cancelled).

9. (Original) A communication system comprising a transmission apparatus and a receiving apparatus connected wirelessly through a wireless channel, wherein

said transmission apparatus comprises

a plurality of assigning means for respectively and independently assigning a plurality of channel data to signal points on a complex plane,

a plurality of frequency converting means for converting the frequency of the plurality of signal points output from said plurality of assigning means in response to a center frequency of each channel,

a multiplexing means for multiplexing the plurality of signals output from said plurality of frequency converting means,

a modulating means for modulating the signal multiplexed by the multiplexing means to an OFDM signal, and

a transmitting means for converting the OFDM signal to an RF band signal and transmitting the same, and

said receiving apparatus comprises

a receiving means for receiving the signal transmitted from the transmitting means of said transmission apparatus;

a frequency converting means for converting the signal received in the receiving means to a signal of an intermediate frequency;

a frequency signal selecting means for extracting from the frequency converted signal only a frequency corresponding to the selected channel;

a quadrature demodulating means for quadrature- demodulating the selected frequency signal by using an intermediate frequency signal and extracting an orthogonal I-signal and Q-signal defined in a complex coordinate system;

a demodulating means for demodulating the quadrature-demodulated signal to a time-series signal.

10. (Cancelled).